AMENDEMENTS TO THE CLAIMS

Claims 1-58 (Canceled)

59. (New) A targeting construct capable of producing a disruption in a lymphoid specific GPCR gene, the targeting construct comprising:

(a) a first polynucleotide sequence homologous to a lymphoid specific GPCR gene;

(b) a second polynucleotide sequence homologous to the lymphoid specific GPCR gene; and

(c) a selectable marker gene located between the first polynucleotide sequence and the second polynucleotide sequence,

wherein the targeting construct, when introduced into murine embryonic stem cells, produces a disruption in the lymphoid specific GPCR gene, wherein the disruption, when homozygous, results in inhibition of production of functional lymphoid specific GPCR protein leading to at least one of the following phenotypes in a transgenic mouse comprising the disruption: lymphocyte infiltration of lung tissue, lymphocyte infiltration of pancreatic tissue, lymphocyte infiltration of liver tissue or lymphocyte, granulocyte or plasma cell infiltration of stomach tissue.

60. (New) A murine embryonic stem cell transformed with the targeting construct of claim 59.

61. (New) A method of producing a targeting construct capable of disrupting a lymphoid-specific GPCR gene, the method comprising:

(a) obtaining a first polynucleotide sequence homologous to a first region of a lymphoid specific GPCR gene;

(b) obtaining a second polynucleotide sequence homologous to a second region of the lymphoid specific GPCR gene;

(c) providing a vector comprising a selectable marker gene; and

(d) inserting the first and second polynucleotide sequences into the vector to produce the targeting construct,

wherein the selectable marker gene is located between the first and second polynucleotide sequences, and wherein the targeting construct, when introduced into murine embryonic stem cells, produces a disruption in the lymphoid specific GPCR gene, wherein the disruption, when homozygous, results in inhibition of production of functional lymphoid specific GPCR protein leading to at least one of the following phenotypes in a transgenic

mouse comprising the disruption: lymphocyte infiltration of lung tissue, lymphocyte infiltration of pancreatic tissue, lymphocyte infiltration of liver tissue or lymphocyte, granulocyte or plasma cell infiltration of stomach tissue.

62. (New) A method of producing a targeting construct capable of disrupting the lymphoid specific GPCR gene, the method comprising:

(a) providing a polynucleotide sequence homologous to a lymphoid specific GPCR gene;

(b) generating two different fragments of the polynucleotide sequence;

(c) providing a vector comprising a selectable marker gene; and

(d) inserting the two different fragments into the vector to form the targeting construct, wherein the selectable marker gene is located between the two different fragments, and wherein the targeting construct, when introduced into murine embryonic stem cells, produces a disruption in the lymphoid specific GPCR gene, wherein the disruption, when homozygous, results in inhibition of production of functional lymphoid specific GPCR protein leading to at least one of the following phenotypes in a transgenic mouse comprising the disruption: lymphocyte infiltration of lung tissue, lymphocyte infiltration of pancreatic tissue, lymphocyte infiltration of liver tissue or lymphocyte, granulocyte or plasma cell infiltration of stomach tissue.

63. (New) A transgenic mouse whose genome comprises a disruption in an endogenous lymphoid specific GPCR gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional lymphoid specific GPCR protein, and exhibits lymphocyte cellular infiltration of lung tissue.

64. (New) A transgenic mouse whose genome comprises a disruption in an endogenous lymphoid specific GPCR gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional lymphoid specific GPCR protein, and exhibits lymphocyte cellular infiltration of pancreatic tissue.

65. (New) A transgenic mouse whose genome comprises a disruption in an endogenous lymphoid specific GPCR gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional lymphoid specific GPCR protein, and exhibits lymphocyte cellular infiltration of liver tissue.

66. (New) A transgenic mouse whose genome comprises a disruption in an endogenous lymphoid specific GPCR gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional lymphoid specific GPCR protein, and exhibits cellular infiltration of stomach tissue by at least one of the following types of cells: lymphocytes, granulocytes or plasma cells.
67. (New) A cell or tissue isolated from the transgenic mouse of claim 63, claim 64, claim 65, or claim 66.
68. (New) A transgenic mouse comprising a heterozygous disruption in an endogenous lymphoid specific GPCR gene, wherein, upon breeding, the disruption in a homozygous state inhibits production of functional lymphoid specific GPCR protein resulting in a transgenic mouse exhibiting at least one of the following phenotypes: lymphocyte infiltration of lung tissue, lymphocyte infiltration of pancreatic tissue, lymphocyte infiltration of liver tissue or lymphocyte, granulocyte or plasma cell infiltration of stomach tissue.
69. (New) A cell or tissue isolated from the transgenic mouse of claim 68.
70. (New) A method of producing a transgenic mouse comprising a disruption in an endogenous lymphoid specific GPCR gene, the method comprising:
    (a) introducing a targeting construct capable of disrupting the endogenous lymphoid specific GPCR gene into a murine embryonic stem cell;
    (b) introducing the murine embryonic stem cell into a mouse blastocyst;
    (c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein the pseudopregnant mouse gives birth to a chimeric mouse; and
    (d) breeding the chimeric mouse to produce the transgenic mouse,
    wherein where the disruption is homozygous, the transgenic mouse lacks production of functional lymphoid specific GPCR protein and exhibits at least one of the following phenotypes: lymphocyte infiltration of lung tissue, lymphocyte infiltration of pancreatic tissue, lymphocyte infiltration of liver tissue or lymphocyte, granulocyte or plasma cell infiltration of stomach tissue.
71. (New) The transgenic mouse produced by the method of claim 70.